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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/642,646

08/19/2003

Byung-cheol Song

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7590

06/15/2007

STAAS & HALSEY LLP

SUITE 700

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WASHINGTON, DC 20005

EXAMINER

LEE, Y YOUNG

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

06/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/642,646

Applicant(s)

SONG, BYUNG-CHEOL

Examiner

Y. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 12-14 and 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-11, 15-18 and 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/19/03 and 9/21/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Figure 10, claims 1-4, 8-11, 15-18, and 22-27 in the reply filed on 4/20/07 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 8, 11, 15, 18, and 22-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Reininger et al (5,426,463).

Reininger et al, in Figures 2 and 4-6, discloses an apparatus for controlling quantizing in a video signal compressor that is the same discrete cosine transform (DCT)-based motion image encoding apparatus and method (Fig. 2) that uses a plurality of modified quantization weight matrices (Figs. 4-6), the method comprising selecting one of the plurality of modified quantization weight matrices based on a characteristic of input image data 10; performing DCT 13 on the input image data 10; and performing quantization 14 on the DCT input image data 13 using the selected modified quantization weight matrix.

With respect to claims 4, 8, 11, 15, 18, and 22-27, Reininger et al also discloses performing inverse quantization 16 on the quantized data 14, wherein the inverse quantization 16 is performed using a default quantization weight matrix; wherein the plurality of modified quantization weight matrices comprises a plurality of modified quantization weight matrices for component Y of the input image data 10; and wherein the plurality of modified quantization weight matrices comprises a plurality of modified quantization weight matrices for component C_R and component C_B of the input image data 10.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 9, 10, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reininger et al in view of Kim et al (Comparing Performance of Entropy Constrained Scalar Quantizer and other Scalar Quantizers).

Although Reininger et al discloses the plurality of modified quantized weight matrices are classified based on the characteristic of input image data, it is noted Reininger et al differs from the present invention in that it fails to particularly disclose any noise information as specified in claims 2, 3, 9, 10, 16, and 17. Kim et al, however, teaches the concept of such well known noise information during quantization based on a ratio of the input image variance to a noise variance.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Reininger et al and Kim et al before him/her, to exploit the well known quantization technique as taught by Kim et al in the DCT-based motion image encoding method of Reininger et al, in order to give the best possible rate-distortion performance in the quantizer.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-18, 26, and 27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 15-18, 26, and 27 do not constitute a statutory process, machine, manufacture or composition of matter and are found to be non-functional descriptive material because a "computer-executable instructions" for a device cannot exhibit any functional interrelationship with the way in which computing processes are performed. The set of instructions is merely stored in a program so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer. According to page 53 of the Interim Guidelines, such computer codes alone do not impart functionality either to the data as so structured, or to the computer. The computer codes cannot alone provide the practical application for the manufacture. A computer-readable medium claim does not distinguish by how it was manufactured by the qualities and characteristics of the product. Applicant's combination of code signals defines a product that is no more than a sequence of ones

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("1s") and zeros ("0s"), the noise reducer, the encoding apparatus and the process of encoding may differentiate but not the medium.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (571) 272-7334.

The examiner can normally be reached on (571) 272-7334.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Y. Lee
Primary Examiner
Art Unit 2621

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